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ABSTRACT

Four lessons in this inquiry unit introduce junior high students to the influence of geography on economics and way of life in Japan. Lessons are provided on the effects of overcrowding, the influence of space on Japanese farming, a Japanese product search, and Japanese cuisine. Each lesson includes time and materials required, rationale, concepts, instructional objectives, teaching procedure and follow-up activities. Teaching procedures include such formats as simulation, case studies, a Japanese product hunt, and discussion. Complete teaching materials and procedures are provided. (LP)

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AN INQUIRY UNIT ON THE ECONOMIC GEOGRAPHY OF JAPAN FOR JUNIOR HIGH GEOGRAPHY

by

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The University of Tennessee at Chattanooga

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AN INQUIRY UNIT ON THE ECONOMIC GEOGRAPHY OF JAPAN FOR JUNIOR HIGH GEOGRAPHY

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AN INQUIRY UNIT ON THE ECONOMIC GEOGRAPHY OF JAPAN FOR JUNIOR HIGH GEOGRAPHY

Introduction for the Teacher

Geography strongly influences the economy and way of life of any nation. In the case of Japan a major geographical influence upon the economy and quality of life is the small living space relative to the population. Several lessons in this unit assist students to understand how the living space problem influences how Japanese live and work. The influence of another geographical factor, the sea, upon life and work in Japan is also the focus of a lesson.

The Japanese have overcome their living space problem and produced one of the healthiest economies in the world. This theme is also the major focus of a lesson in this unit.

The four lessons in this unit all have common pedagogical features. They require students to think inductively and analyze data in order to arrive at a better understanding of "the land of the Rising Sun."

"YOU THINK YOU HAVE TROUBLES!!!": A SIMULATION ON OVERCROWDING *

I Time Required

One to one-and-one-half fifty minute class periods

II Materials Required

Masking Tape (Optional)
Pencils
Mimeographs of math problems

III Rationale

This simulation provides students with the concrete experience of crowding, overpopulation, scarcity, interdependence, and cooperation thus enabling them to understand a major Japanese problem.

IV Concepts

Overpopulation
Interdependence
Scarcity
Cooperation

V Instructional Objectives

1. Students will devise and carry out through group cooperation, solutions to the problems assigned in the simulation.
2. After participating in the simulation, students will contrast orally how living space affects life in the United States and in Japan.

VI Teaching Procedure

1. Divide class into four random groups.
2. Move desks to one side or middle of classroom (which will represent the uninhabitable area) with the exception of enough desks for ¼ of the students
3. Have the groups (standing, without any materials) select a number — 1,2,3,4.
4. OPTIONAL - using the masking tape, divide the remaining floor space in half. Then divide the remaining half into thirds.
5. Place the desks in the ¼ floor space.
6. Group #4 will have this half of the room with the desks provided for each student. Each student will receive a copy of the #4 math problems and a pencil.
7. Group #3 will have 1/3 of the second half of the floor space. Each student will be provided with a copy of #3 problems and a pencil. Their floor space will be specifically designated.

*This simulation has been employed for a number of years by Dr. Tom Bibler, School of Education, The University of Tennessee at Chattanooga.

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8. Group #2 will be given only one copy of #2 math problems and only ½ as many pencils as students.
9. Group #1 will be given as many copies of the problems as they wish but no pencils.
10. Teacher only indicates to Group #2 and #1 their floor space carefully avoiding any restriction of their free movement.
11. Teacher then informs class that in order for any student to receive a grade every student in the group must turn in a correctly completed paper.

NOTE: Teacher may want to call time and have students switch places.

DEBRIEFING

12. The teacher should ask students to discuss the problems they encountered in the simulation and their feelings about these problems.
13. In debriefing, the teacher should emphasize that one major purpose of the simulation was to let the students experience what living in a crowded country such as Japan would be like.
14. Ask the students which group best represents Japan. The correct answer is Group #3 because they have capital equipment (the pencils and paper for each group member, but limited space).

VII. Follow-up Activities

Here are several facts about overcrowding in Japan. Present the following information to students on the chalkboard or in a handout.

Japan is the world's most crowded land in terms of inhabitable space. The population of (115,000,000 - half that of the United States) Japan lives in a portion of the country that is approximately as large as Connecticut.

An average apartment in a Japanese apartment complex is likely to be no larger than a good size room in an American apartment, (although it may be divided into several tiny rooms).

Tokyo residents have less than a tenth as much park space per person as residents of New York City.*

Questions

1. What is the relationship between Japanese group cooperation for which her people are famous and Japan's land space problem?

2. Why do you think rents for apartments in Japan would be higher or lower than in the United States?

In order to give the students a more graphic idea of Japan's living space problem, the teacher might wish to reproduce the map that is included with this lesson and give students copies.

*The above data is taken from The Japanese by Edwin O. Reischauer, Harvard University Press, 1981.

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JAPAN
superimposed on the
UNITED STATES

Taken from The Japanese by Edwin O. Reischauer

GROUP #1

$$\begin{array}{r} 112 \\ \times 113 \\ \hline \end{array}$$

$$\begin{array}{r} 3456 \\ -1234 \\ \hline \end{array}$$

$$\begin{array}{r} 111 \\ 222 \\ +333 \\ \hline \end{array}$$

$2.0 \overline{)\,48620}$

$1/2 + 3/4$

GROUP #2

$$\begin{array}{r} 211.2 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 56789 \\ -12345 \\ \hline \end{array}$$

$$\begin{array}{r} 111 \\ 222.2 \\ 333 \\ +444.4 \\ \hline \end{array}$$

$3.3 \overline{)\,6393}$

$1/2 + 3/4 + 2/8$

GROUP #3

1234
x456

1222
-333

555.5
666
777
+888

2.0 | 4030

1/8 + 1/7 + 1/2

GROUP #4

9876
1234

48759
12345

7921
x9.76

.283 | 4695356

9721.1
864
10752
802.6
+7191.4

1/8 + 2/4 * 7/8 * 3/7

THE TWO FARMERS

I. Time Required — Two fifty minute class periods

II. Materials Required — Student Handouts

III. Rationals — Students can better understand the influence of space upon one kind of Japanese workplace by reading about two real-life farmers

IV. Generalization — The physical environmental factor of space determines the organization and output of many economic institutions including farms

V. Instructional Objectives

1. Students will demonstrate an understanding of the effects of space upon the lives and work of a Japanese and American family through identifying in writing specific examples of how space affects each family
2. Students will, through mathematical calculations, demonstrate how space affects demand for, and the price of, a unit of land in Japan and the United States
3. Students will recognize, through analyzing each farmer's operation and listing examples, how space determines use of technology and labor
4. Students will demonstrate an understanding of key economic and geographical concepts and terms through writing in their own words definitions of each

VI. Teaching Procedures — Have students read the two case studies. Take a few minutes before they read to clarify any economic or geographical terms with which the students might be unfamiliar. See number four in the discussion question section

VII. Discussion Questions

1. Write a short essay describing how space affects: the ways the two families live; the land and major crops; and farming techniques employed.
2. List specific ways the two farmers you read about make use of technology to improve their production? Which farmer seems to be most efficient at utilizing technology? Why?

3. What is the average price of Mr. Oka's land per acre? What is the average price of Mr. Sturdivant's land per acre? What do you think is the major reasons why one farmer's land is higher per acre than the other farmer?

4. Important terms you should know:

Geography Terms	Economic Terms
square kilometers	manufacturing
yen	labor intensive
alluvial plain	market value
rural	capital intensive
	technology

THE OKAS

(Student Case Study)

Mr. Yosheaka Oka and his family proudly carry out important economic activity in Japan that the Okas have been engaged in for seventeen generations; farming. Since farming means life for all of the world's people as it is the major source of food, we want you to get to know Mr. Oka and later, Mr. Sturdivant, an American farmer. Afterward, you'll better understand how geography affects American and Japanese lives and work. As you read about these two real-life people and their families, think about how an important geographical concept, space, (or the lack of it) affects Japanese and American farms.

THE FAMILY

Mr. Oka, a slender, friendly man in his forties, and his family of six live in a modest home a quarter of a mile from their farm which is located in Mie Prefecture (a Japanese prefecture is similar to an American state), a largely rural prefecture in south central Japan. Mr. Oka's farm is only a few miles from the Prefectural capital of Tsu (population 145,392).

When Americans think of rural, we imagine empty spaces. "Rural" is quite different in Japan. Beacause 314 people live in one square kilometer (slightly over half a square mile, an average of 24 people occupy the same space in the United States), Japanese farms are surrounded by houses, businesses and other structures. Because farms are almost always adjacent to buildings it is hard for Americans to tell what is rural in Japan!

Mr. Oka, his wife, their two adult unmarried sons, and Mr. Oka's elderly parents all work on the farm during the year, although no family member works at farming full-time. The farm provides 30% of the Oka's annual cash income and much food for the family. Mr. Oka and his sons have full-time heavy manufacturing jobs in Tsu. A combination of employment in business and industry and farming is a characteristic shared by most Japanese farmers today. Only 13% of Japanese farmers earn all their annual income from full time farming.

THE LAND AND MAJOR CROPS

Although Mr. Oka's land is valued at 40,000,000 yen ($165,000)

there is not much of it by U.S. standards. The entire Oka farm is only two and three-quarter acres. Even though the Oka's farm is smaller than most farms, the average Japanese farm is only four and one-half acres. The average U.S. farm by contrast is 437 acres. The Oka's farm consists of a two and one-half acre plot for rice and a one-fourth acre plot for vegetables. Why rice and vegetables instead of cattle and corn? The size of Mr. Oka's farm, more than any other factor, would cause him to lose many yen if he raised cattle or planted corn. The Oka's two plots are approximately one-half mile apart and two private homes and another farmer's plot separate the Oka's land.

Rice is the major crop the Oka's produce, (as is the case with most Japanese farmers), and it is planted in early April. The first step in rice production is the growing of tiny seedling in trays inside the Oka's barn. The Oka's barn is the size of a hobby workshop in the United States. Later on that same month the rice beds in the fields are prepared with a tractor and land cultivator, and a rice replanter is used to plant the seedlings in the field. At the end

of August the rice is harvested with a combine, then put through a husking machine and a rice dryer in the Oka's barn. The rice is now ready for delivery to the local farmers cooperative where Mr. Oka sells his crop. Mr. Oka is responsible for trucking his rice, as is the case with his other crops, to market.

The Oka's second crops, cabbage and taro, (the latter is a south pacific cousin to our sweet potato), are grown on their one-fourth acre plot. The vegetables are planted in July and harvested in November. The tractor and cultivator are used to prepare the land, but the cabbage and taro seeds are sown and the vegetables picked by hand.

All of Mr. Oka's equipment, although expensive for a Japanese farmer, is small by American standards. His tractor is the size of a riding lawnmower, and none of the other equipment is as large in height as the average adult. Again, space determines the size of equipment on the Japanese farm. Not only would larger equipment be inefficient on small Japanese farms, there is no place for

Japanese farmers to store the large tractors, trucks and combines found on farms in our country.

FARMING TECHNIQUES

Although the Oka family uses a variety of equipment in their operation in working with rice, vegetables are more delicate and are worked largely by hand. This work is labor intensive--that is, it takes several family members to plant, weed, and pick the cabbages and taro.

One farming technique that the Okas cannot use that farmers in many lands employ is the practice of allowing land from time to time to remain fallow, or unplanted, so that soil nutrients lost from crop growth may be replenished. Therefore, the Okas must employ regularly a large amount of inorganic and organic fertilizer to replenish the nutrients that are robbed from the land by growing crops. Although allowing land to remain fallow is a better farming method than planting year after year, the small size of farms in Japan makes it much more costly for a Japanese farmer to not plant a crop than for an American farmer

to follow this practice. Again, space determines what techniques a Japanese farmer may or may not employ.

Thus, in many ways, the lives of Mr. Oka and other Japanese farmers are similar to the lives of American farmers. Mr. Oka spends long hours outside, must cope with paying for costly equipment, works extremely hard during planting and harvesting, and worries about low prices for his produce. However, few sights could be more different in appearance than the average Japanese and American farms. One factor in the physical environment most accounts for this difference; space.

THE STURDIVANTS

(Student Case Study)

Mr. Tommy Sturdivant's ancestors were among the first families who began farming Tallahatchie County, Mississippi. "Sturdy Acres," the family farm, was founded in the late 1800s when the county was developed. Tallahatchie County is located in the Mississippi Delta, a flat, alluvial plain in Mississippi that extends approximately 160 miles north to south from Memphis, Tennessee to Vicksburg, Mississippi and approximately fifty miles from the Mississippi River west to east.

Just as with the Okas in Japan, geography affects how the Sturdivants live and work. As you read about the Sturdivants think about how one important geographical concept, space, affects the Sturdivants' work.

THE FAMILY

Mr. Sturdivant, a stocky, bearded, friendly man in his thirties, and his family of four live in a house that is about fifty percent larger than the Okas. The Sturdivants also dwell in a rural area but space changes the meaning of the word "rural" in the United States as opposed to what "rural" would mean in Japan.

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The area of Mississippi the Sturdivants farm has less than twenty people per square kilometer while there are 314 people per square kilometer where Mr. Oka lives in Japan. Think for a moment about the fact that 15.7 times as many people live in Mr. Oka's "rural" area than in Mr. Sturdivant's "rural" area where there are only a few neighbors. The closest town to the Sturdivants is Minter City which has a population of 200 and is three miles from their farm.

Mr. Sturdivant and his wife Carolyn have two elementary school age children. The farm provides, partially because it is large enough to do so, for all of the family income. The Sturdivants are becoming unusual in the United States. They are full-time farmers. Today less than two percent of all American farmers actually earn most of their income from farming.

THE LAND AND MAJOR CROPS

Mr. Sturdivant owns a farm of 1,200 acres, which is between two and three times the size (450 acres) of the average U.S. farm. However, except for truck farming and tobacco, most farmers who gain all or the majority of their income from raising crops have farms that are larger than the national average. Thus many people who own small farms in the

United States use their land for recreational purposes or as part-time work.

Mr. Sturdivant's farm which consists of prized crop land is valued at $1,800 an acre. Remember that the Oka's farm of two and three-quarter acres had a total value in American money for $165,000. Take a minute to work out what one acre of Mr. Oka's land costs, and more importantly, why land per acre is so much more expensive in Mie, Japan than Mississippi.

Cotton, because of its market value, is the major crop the Sturdivants grow and they devote 800 acres of their farm to producing it. The cotton is planted in April and harvested in October and November. The other 800 acres the Sturdivants farm are devoted to soybeans (many of which are exported to Japan!). Soybeans are planted and harvested about the same time as cotton. Mr. Sturdivant is responsible for transporting his cotton to a gin and his soybeans to a grain elevator after harvest. In both cases the depots are almost ten miles away and the Sturdivants own two large commercial trucks to transport produce.

The Sturdivant's farm is very capital intensive compared to the Oka's farms. Remember it took all six of Mr. Oka's family at one time or another to work two and three quarter acres. Mr. Sturdivant has six full-time employees who work the land except for the planting and harvesting seasons when seasonal employees are utilized. The Sturdivants are able to work that great amount of land with roughly the same labor force as the Okas because at any given time during the year an average of seventy-five percent of the Sturdivant's employees will be operating machinery.

Machinery and storage facilities are much more important to Mr. Sturdivant than Mr. Oka because of the large space that must be farmed by Mr. Sturdivant. There are plenty of machines at "Sturdy Acres." In addition to the two trucks mentioned earlier, Mr. Sturdivant owns:

5 tractors
2 cotton pickers
3 combines
assorted farm equipment (discs, applicators, mowers)

FARMING TECHNIQUES

A major task that takes place every farming season with the Sturdivant's bean and cotton crops is the employment of herbicides and pesticides to insure high quality produce. Early after a final planting Mr. Sturdivant can use his own employees to apply the chemicals with a tractor and a special machine called an applicator. However, as spring turns to summer, and the cotton and soybean plants grow larger, spraying for pests on the ground becomes impossible. Then airplanes are used for this task. Because his farm is so small Mr. Oka hand-applies all his chemicals.

Although the Sturdivants use fertilizer regularly on their land to replace nutrients, they can afford, because of the large amount of land owned, to let some land remain fallow every year to further insure the growth of good crops in the future.

The Okas and Sturdivants are alike in some ways vis-a-vis their work. Each family works hard during planting and harvesting, worries about the weather, and watches closely the ever changing market prices for the crops they grow. However, the different physical environments cause the two

families work and lifestyles to be more different than alike. Space is one very important factor that accounts for those differences.

JAPANESE PRODUCT SEARCH

I. Time Required

Various periods of time out of class, one and one-half fifty minute class periods

II. Materials Required

None

III. Rationale

This lesson illustrates to students in a concrete manner the fact that living space problems notwithstanding, Japan is an economic giant that sells America vast amounts of goods.

IV. Content and Concepts

Japan is the second leading economy in the world and provides a number of goods in the United States including china, stereos of all varieties, automobiles, motorcycles, and televisions. Concepts students will be exposed to in this lesson include economic inter ependence, foreign trade, and spatial influences upon economic production.

V. Instructional Objectives

1. Students will become familiar with the range of Japanes products available in the United States through conducting a product search in their own homes and comparing each others findings.

2. Students will, through their product searches and class discussions, become more aware of the economic concept of interdependence.

3. Through analyses of their product searches and teacher-directed discussion students will draw relationships between the geography of Japan and her great emphasis on foreign trade

VI. Teaching Procedures

1. After introducing the students to some rudimentary information about the Japanese economy, give the students the assignment of examining the brand names of various goods in their households so as to determine how many items in their homes were made in Japan. After several days the students should turn their list in and in turn be given the handout that is a master list of products.

A second alternative would be for the teacher to compile a master list on the chalkboard as each student gives an individual report. It is important that the teacher encourage students initially to be as specific as possible when they record information about the products they discover, (e.g. students should be encouraged to record brand names).

2. After the master list is compiled ask the students to group the products by categories, (e.g. automobiles, electronic products).

3. Ask the students the following two discussion questions.

   1. Based on what you know about Japan what are some products the Japanese cannot produce for export because of the size of Japan?

   2. What are some factors that make the Japanese so interested in foreign trade?

JAPANESE CUISINE

I. Time Required — One fifty minute period

II. Materials Required — Student handouts

III. Rationale — The traditional foods a people eat are often determined by the natural resources of the region or country in which people live.

IV. Content — The generalization identified in the rationale; Japanese traditional diet; techniques of food preparation in Japan (optional).

V. Instructional Objectives

1. Students will become familiar with Japanese cuisine through comparing and contrasting American and Japanese menus.
2. Students will recognize the influence of one component of the physical environment; the sea, upon the kinds of food Japanese eat through identifying the items on the Japanese menu that come from the sea.
3. Students will assess, through interviewing the school dietitian or home economist, the relative overall nutritional and health levels of both menus.

VI. Teaching Procedure

1. Ask the students the following question, "From what you know about the Japanese, what would be several popular foods in Japan?" Have each student take a few minutes to make a short list of foods.
2. Pass out copies of menus from your school cafeteria and copies of the Japanese menus that are included with this lesson. Allow the students a few minutes to examine each handout.
3. Have the students identify all the items on the Japanese menus that come from the sea, (almost 50%).
4. Several students might wish to have the home economist or head school dietitian examine the sample Japanese menus to assess the nutritional value of Japanese food staples relative to American foods. In general Japanese diets are healthier because of the low amount of fat in the Japanese diet.

VII. Follow-up Activities

1. The teacher might wish to have one or more students find out information about the origins and proper use of chopsticks and report to the class since the origin of this eating utensil is in part traced to a factor in the physical environment: a lack of metal.

2. A possible guest speaker or interviewee for the students would be the manager of, or an employee in, a local Japanese restaurant if there is one in the area.

3. Several students might wish to examine Japanese cookbooks and prepare samples for the rest of the class.

4. Many Japanese now eat western-style food because of the time it takes to prepare traditional Japanese dishes. Students might interview a Japanese native if there is one in the area, or someone who visited Japan recently, to find out more about this trend.

MENUS

Lotus Root
Snow Peas
Bean Product
Prawn Fritters
Raw Fish
Raw Beef
Gluteneous rice wrapped in dried seaweed
Preserved - pickled - radish
Green Tea

Egg Drop Soup
Rice with carrots and cabbage
Lettuce and Tomatoes
Japane Pear
Green Tea

Mizzu - Fish soup - in Wok
Fresh vegetables
Noodles added to boiling mizzu
Live Prawn
Green Tea

Rice
Baked Brim
Raw Fish
Octopus Soup
Pickled Radish and Squash
Jelly Fish
Boiled Prawn
Green Tea

SELECTED REFERENCES ABOUT JAPAN FOR SOCIAL STUDIES TEACHERS

Although there are a number of excellent references and teaching materials about Japan available, the following are especially useful.

Bullard, Betty and Jiro Nagai, Editors, Opening Doors: Contemporary Japan, 1979, The Asia Society, New York, NY, 417 pp., Library of Congress Catalogue Number 78-74480.

This resource manual is a self-contained course for secondary students about Japan. Probably the best one source for teaching about Japan in print.

Christopher, Robert C., The Japanese Mind, 1983, Linden Press, Simon and Schuster, New York, NY, 352 pp., ISBN 0-671-44947-8.

This book is a solid account of several different aspects of Japanese life including child rearing, Japanese business, and the Japanese language. Christopher is a journalist who has spent a long time in Japan and the book reads like a novel.

Clark, Rodney, The Japanese Company, 1979, Yale University, New Haven, CT, 281 pp., ISBN 0-300-02646-3.

The author of this book spent an extensive amount of time in a Japanese manufacturing company. The section on lifetime employment in Japanese business is excellent. Recommended for social studies teachers who are interested in Japanese business.

Cogan, John and Donald Schneider, Editors, Perspectives on Japan: A Guide to Teachers, 1984, National Council for the Social Studies, 3501 Newark Street N.W., Washington, DC, 20016, Bulletin 69, 132 pp., ISBN 0-87986-045-6.

This bulletin is written especially for the teacher who would like to know more about Japan so as to better understand current events and Japanese culture. The book has three parts: Part I consists of five chapters written by Japanese scholars about the geography, culture, economy, the role of women, and education in Japan; Part II is an analysis of Japan on the world scene by an American; and Part III includes activities and resources for Teaching About Japan.

Reischauer, Edwin O., The Japanese, 1981, The Belknap Press, Harvard University, Cambridge, MA, 443 pp., ISBN 0-674-47178-4.

This book by a former American Ambassador to Japan is considered a classic of Japanese studies. There are extensive sections on Japan's history, society, politics and international relations.